

CLAIMS

1. A lubricating oil composition for continuously variable transmission comprising:

(A) a base oil comprising a hydrocarbon compound having a cohesive
5 energy density at 40°C of 0.180 GPa or more, said base oil having a kinematic
viscosity at 40°C of 5 to 150 mm²/s, and

(B) a phosphoric ester containing a hydrocarbon group having a
thioether bond, and/or (C) at least one compound selected from the group
consisting of phosphoric esters and amine salts thereof, and an overbased
10 calcium sulfonate.

2. A lubricating oil composition for continuously variable transmission
according to claim 1, wherein said cohesive energy density (CED) at 40°C is
calculated from the following formula (1):

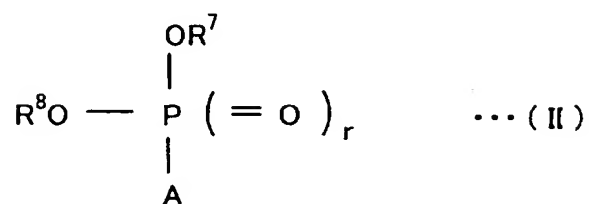
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$$\text{CED (GPa)} = 0.0204(d/\text{MW}) \cdot T \cdot \ln(2.51\eta \cdot \text{MW}) \quad (1)$$

wherein d is a density (g/cm³) at 40°C; MW is a molecular weight (g/mol); T is
an absolute temperature (K); and η is a kinematic viscosity (mm²/s) at 40°C.

3. A lubricating oil composition for continuously variable transmission
20 according to claim 1 or 2, wherein said base oil (A) contains at least one
compound selected from the group consisting of (i) dimerized norbornanes, (ii)
hydrogenated dimers, trimers and tetramers of norbornanes and/or
norbornenes, (iii) alkane derivatives having 2 or more cyclohexane rings, and
(iv) alkane derivatives having one or more decalin rings and one or more
25 cyclohexane rings.

4. A lubricating oil composition for continuously variable transmission
according to any one of claims 1 to 3, wherein said phosphoric ester (B)
containing a hydrocarbon group having a thioether bond is an acid phosphoric

ester or phosphorous ester represented by the general formula (II):



wherein r is 0 or 1; when r is 0, A is a hydroxyl group, and when r is 1, A is a hydrogen atom or a hydroxyl group; and R⁷ and R⁸ are respectively a hydrogen atom or a hydrocarbon group having 1 to 18 carbon atoms which may have one or more thioether bonds, and at least one of R⁷ and R⁸ is the hydrocarbon group having a thioether bond.

5. A lubricating oil composition for continuously variable transmission according to any one of claims 1 to 4, wherein said phosphoric esters and amine salts thereof as the component (C) are phosphoric esters containing an alkyl group having 3 to 12 carbon atoms or an aryl group having 6 to 12 carbon atoms, and amine salts thereof.

6. A lubricating oil composition for continuously variable transmission according to any one of claims 1 to 5, wherein said overbased calcium sulfonate as the component (C) has a base value of 50 to 700 mg KOH/g.

7. A lubricating oil composition for continuously variable transmission according to any one of claims 1 to 6, further comprising (D) a sulfur containing anti-wear agent.

8. A lubricating oil composition for continuously variable transmission according to any one of claims 1 to 7, wherein said continuously variable transmission is of a metallic belt type.

9. A lubricating oil composition for continuously variable transmission according to any one of claims 1 to 7, wherein said continuously variable transmission is of a chain type.

5 10. A lubricating oil composition for continuously variable transmission according to any one of claims 1 to 7, wherein said continuously variable transmission is of a traction drive type.